

San  
Pasqual  
Domestic  
Water  
Authority

2019  
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## A Message from the San Pasqual Water Authority

*We are pleased to share the San Pasqual Water Department continues to provide high quality and affordable drinking water to you each and every day.*

*While we are extremely confident about the quality of water delivered to your homes, as a community we must rethink how we use this quality water. Because of the potential for severe drought we have been monitoring the states Drought Status, see page 5 for current drought status and maps. We have to challenge ourselves to adapt to this new water reality: it is a limited resource and it is becoming more so. Rethinking water use outdoors is by far the area with the most potential for savings. However there are other ways to conserve so that we all can do our part to reduce water use.*

*Water is integral to maintaining San Pasqual's way of life. Together, we must value water, consume it wisely and never waste it. We are confident this report will shed some light on just how valuable water is and how much effort is involved to deliver this precious resource.*

*Sincerely,  
San Pasqual Domestic Water Authority*

The San Pasqual Domestic Water Authority pleased to present you with the Annual Drinking Water Quality Report for 2019, also known as the Consumer Confidence Report. The U.S. Environmental Protection Agency and the California Division of Drinking Water require that all water agencies produce an annual report on the previous year informing customers about the quality of their drinking water.

This report is a snap shot of your water quality. Included are details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. We are committed to providing you with information because informed customers are our best allies.

## **Our Water Supply for PWS ID 0605017, PWS ID 0605080 and PWS ID 090605168**

### **SOURCE OF THE TRIBES DRINKING WATER**

The Tribal ground water supply begins as rainwater that is naturally filtered through the soil. This water percolates through the soil and settles, usually several hundred feet below the Earth's surface, to form aquifers. Well #4, Well #3 on District A and Well # 1 on District C pumps from such an aquifer for domestic use. The Reservation also uses chlorinated and fluoridated water purchased from Valley Center Municipal Water District for both Water Systems A & B. The 2019 Water Quality Report for Valley Center may be accessed at [www.vcmwd.org](http://www.vcmwd.org). In an effort to supply you with the safest possible product, the Tribe also chlorinates the water at Well #4 and Well #3 to help control viruses and bacteria. The level of chlorine is monitored to ensure proper dosages.

### **DO I NEED TO TAKE ANY SPECIAL PRECAUTIONS?**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised individuals such as a person with cancer undergoing chemotherapy, individuals who have undergone organ transplant, people with HIV/AIDS or other immune system disorders, some elderly and infants can be particularly at risk from infections. These individuals should seek advice about drinking water from their health care providers. The Environmental Protection Agency (EPA) and Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the EPA Safe drinking Hotline (800-426-4791) or at <https://www.epa.gov/ground-water-and-drinking-water/safe-drinking-water-hotline>



## OUR IMPORTED WATER SUPPLY AND THE IMPACT ON WATER QUALITY

The San Pasqual Reservation imported some of our water supply in 2019. This imported water is provided by Valley Center Municipal Water District, which purchases water from the San Diego County Water Authority, who purchases water from the Metropolitan Water District of Southern California. Ultimately, our water was a blend from two different sources from Colorado River water and California State Water Project water. Throughout the year, the blend changes.

Several forces negatively impact the quality of water from the Colorado River and California State Water Project. The Colorado River winds through thousands of miles of unprotected watershed containing towns, farms, old mining sites and industrial sites.

Water from the California State Water Project is also subject to potential contaminants such as pesticides and herbicides. This water source also has a higher organic carbon and bromide level than the Colorado River water. As organic carbon and bromide levels increase, the potential for creating higher levels of disinfection by-products exists.

Colorado River and California State Water Project water is treated by the San Diego County Water Authority and Valley Center Municipal Water District. San Pasqual

Water Department regularly monitors the quality of all water to ensure all drinking water quality standards are met.



# LINKS TO OUTSIDE WATER SOURCE CCR FOR 2019

Valley Center Municipal Water District

<http://www.vcmwd.org/Services/Water-and-Customer-Service/Water-Quality-Reports>

San Diego County Water Authority

<https://www.sdcwa.org/water-quality>

Metropolitan Water District of Southern California

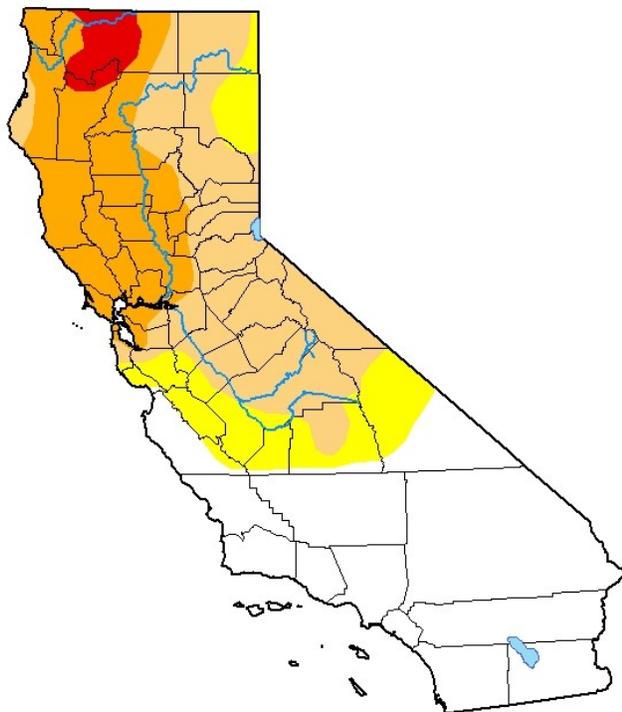
[http://www.mwdh2o.com/pdf\\_about\\_your\\_water/2.3.1\\_annual\\_water\\_quality\\_report.pdf](http://www.mwdh2o.com/pdf_about_your_water/2.3.1_annual_water_quality_report.pdf)

## U.S. Drought Monitor California

**June 9, 2020**

(Released Thursday, Jun. 11, 2020)

Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	41.79	58.21	46.74	20.84	2.45	0.00
<b>Last Week</b> 06-02-2020	41.80	58.20	46.67	20.84	2.97	0.00
<b>3 Months Ago</b> 03-10-2020	21.50	78.50	48.09	0.00	0.00	0.00
<b>Start of Calendar Year</b> 12-31-2019	96.43	3.57	0.00	0.00	0.00	0.00
<b>Start of Water Year</b> 10-01-2019	95.29	4.71	2.06	0.00	0.00	0.00
<b>One Year Ago</b> 06-11-2019	95.68	4.32	0.00	0.00	0.00	0.00

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brad Pugh  
CPC/NOAA



[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

## U.S. Drought Monitor California

**June 4, 2019**

(Released Thursday, Jun. 6, 2019)

Valid 8 a.m. EDT



Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

David Simeral  
Western Regional Climate Center



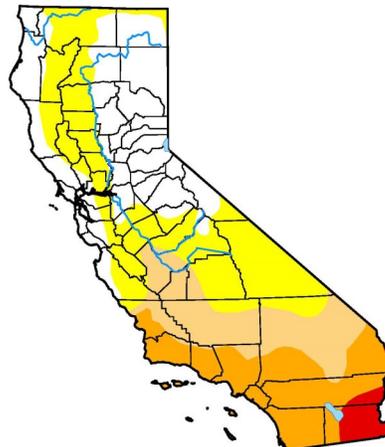
[droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

## U.S. Drought Monitor California

**June 5, 2018**

(Released Thursday, Jun. 7, 2018)

Valid 8 a.m. EDT



Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Anthony Artusa  
NOAA/NWS/NCEP/CPC



<http://droughtmonitor.unl.edu/>

## WHY IS THERE ANYTHING IN MY WATER?

Drinking Water, including Bottled water, may reasonably be expected to contain at least small amounts of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe drinking Hotline (800-46-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides, that may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, agricultural application, and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

## OUR WATER TREATMENT PROCESS

The San Pasqual Water Department provides high-quality drinking water by utilizing proven technology, updated facilities, and state-certified operators. Water is treated at the Tribes water treatment plant using several processes, with each process providing additional water quality improvements. Using several treatment processes provides multiple barriers for added safety. Our treatment plant employs a combination of time-tested conventional water treatment processes. Conventional water treatment consists of potassium permanganate treatment for iron and manganese, sedimentation for sand removal, and sand/multi-media filtration; this cost-effective, proven method of treatment is used throughout the modern world.

## WATER QUALITY TABLE

The table below lists all of the drinking water contaminants detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires monitoring for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

### Public Water System #090605017, 1 Ground water Source and 1 Surface Water Source District A *(Canal Road, Oos Road, Paradise Mtn Road, Ipaii, Ashaa, Eagle Way)*

Contaminants	MCLG	MCL	Your water	Range Low	Range High	Date	Violation	Typical Source
<b>Disinfection By-Products</b>								
Five Halo acetic Acids (HAA5)	N/A	0.06	0	0	0	2017	No	By-Product of Drinking Water
Total Trihalomethanes	N/A	0.08	0	0	0	2017	No	By-Product of Drinking Water
<b>Inorganic Contaminants</b>								
Arsenic Units: ppb	0	10	8.1	5.2	15	2019	Yes	Erosion of natural deposits; runoff from orchards; glass and electronics production waste
Barium Units: ppm	2	2	0	N/A	0	2019	No	Discharge of oil drilling wastes and from metal refineries; erosion of natural deposits
Sodium Units: ppm	0	0	0.2259	N/A	0.2259	2019	No	Erosions of Natural Deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [Reported as Nitrogen] Units: ppm	10	10	0	ND	0	2019	N/A	Runoff and leaching from fertilizer use; leaching from septic tanks; sewage; erosion of natural deposits

# Public Water System #090605017

Contaminants	MCLG	MCL	Your water	Sample Range	Sample Range	Date	Violation	Typical Source
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## Radiological Contaminants

Adjusted Alpha (Excl. Radon & U) Units: pCi/L	0	15	2.2	N/A	N/A	2019	No	Erosion of natural deposits; Salt water intrusion
Uranium (Combined) Units: ppm	0	30	16.4	N/A	N/A	2019	No	Erosion of natural deposits; Salt water intrusion

Contaminants	MCLG	MCL	Your water	Sample Range	Sample Range	Date	Violation	Typical Source
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## Lead and Copper Rule

Copper Units: ppm - 90th percentile	1.3	1.3	0.12	0 sites over Action Level		2017	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead Units: ppb - 90th percentile	0	15	3.5	0 sites over Action Level		2017	No	Corrosion of household plumbing systems; discharges from industrial manufactures; erosion of natural deposits

## Health Effects Language

### Arsenic

*Human consumption of water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problem, and may have an increased risk of getting cancer.*

### **Special Education Statements**

#### **Additional Information for Lead**

*If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. PWS system is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 1-800-426-4791 or at <http://www.epa.gov/your-drinking-water/basic-information-about-lead-drinking-water>.*

## WATER QUALITY TABLE

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### Public Water System #090605080, 1 Surface Water Source

**District B** (*Kumeyaay Way, Nyemii Pass, Kunyaaw Path, Morning Star, Kunyaaw Court, South San Pasqual*)

Contaminants	MCLG	MCL	Your water	Sample Range	Sample Range	Date	Violation	Typical Source
<b>Disinfection By-Products</b>								
Five Halo acetic Acids (HAA5) Units: ppb	N/A	60	14.6	N/A	N/A	2019	No	By-Product of Drinking Water Chlorination
Total Trihalomethanes (TTHMs) Units: ppb	N/A	80	25.47	N/A	N/A	2019	No	By-Product of Drinking Water Chlorination
<b>Lead and Copper Rule</b>								
Contaminants	MCLG	Action Level	Your water	Range		Date	Violation	Typical Source
Copper Units: ppm - 90th percentile	1.3	1.3	0.4305	0 sites over Action Level		2017	No	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead Units: ppb - 90th percentile	0	15	4	0 sites over Action Level		2017	No	Corrosion of household plumbing systems; discharges from industrial manufactures; erosion of natural

## WATER QUALITY TABLE

The table below lists all of the drinking water contaminants detected during the calendar year of this report. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires monitoring for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

### Public Water System #090605168 District C (Duro Road), 1 Ground Water Source

Contaminants	MCLG	MCL	Your water	Sample Range	Sample Range	Date	Violation	Typical Source
Inorganic Contaminants								
Fluoride Units: ppm	4	4	0.24	N/A	N/A	2019	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

### Microbiological Testing:

We are required to test your water regularly for signs of microbial contamination. Positive test results could lead to follow-up investigations called assessments and potentially the issuance of public health advisories. Assessments could lead to required corrective actions. The information below summarizes the results of tests.

Public Water System	Sampling requirements	Sampling conducted	Total E. Coli Positive	Assessment Triggers	Assessment Conducted
090605017 District A	2 sample due monthly	12 out of 12	0	1	1
090605080 District B	1 sample due monthly	12 out of 12	0	0	0
090605168	1 Sample Due monthly	3 out of 3	0	1	1

During calendar year 2019 we "Triggered" the requirement to conduct a Level 2 Assessment on Public Water System #090605168. A Level 2 Assessment was completed on January 29, 2020.

#### Monitoring Violations:

Public Water System #090605017 There were no monitoring violations in 2019.

Public Water System #090605080 There were no monitoring violations in 2019.

Public Water System #090605168 There were no monitoring violations in 2019.

### Definitions

A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

A Level 2 Assessment is a study of the water system performed by an EPA-approved entity to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during.

#### *Significant Deficiencies for Public Water System #090605168*

*Sanitary deficiencies are defects in a water system's infrastructure, design, operation, maintenance, or management. The following is a listing of significant deficiencies that have yet to be corrected. Your public water system is still working to correct these deficiencies and interim milestones are shown, as applicable.*

*Deficiency Title: Well Casing*

*Date Identified: 11/26/2019 Overall Due Date: 9/30/2020*

*Deficiency Description: The well casing is only about one inch above the ground which makes it susceptible to inundation during heaving rains.*

*Corrective Action Plan: The well casing should be raised to 18 inches above the concrete floor.*

*Deficiency Title: Well Vent*

*Date Identified: 11/26/2019 Overall Due Date: 9/30/2020*

*Deficiency Description: The well is not equipped with a vent.*

*Corrective Action Plan: A properly engineered well vent should be installed. The well vent should face downward and be screened to prevent entry of contaminants.*

*Deficiency Title: Well House*

*Date Identified: 11/26/2019 Overall Due Date: 9/30/2020*

*Deficiency Description: The well house is downslope from a nearby hill and could be inundated with storm water during heavy rains. The well house is not secured against vandalism.*

*Corrective Action Plan: The well house should be rebuilt with proper drainage to divert storm water around the structure. The rebuilt well house should be fenced and locked to mitigate potential vandalism.*

#### **Unit Definitions:**

ppm= Parts per million, or milligrams per liter (mg/L)

ppb = parts per billion

N/A =Not Applicable

ND = not detectable at testing limit

NR = monitoring not required, but recommended

MCGL = Maximum Contaminant Level Goal: The highest level of contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

MCL = Maximum Contaminant Level. Highest level allowed in drinking water by EPA. MCL's are set as close to the MCLG's as feasible using the best available treatment technology

TT = Total Technique: A required process intended to reduce the level of a contaminant in drinking water.

AL = Action Level: The concentration of a contaminant which, if exceeded, trigger treatment or other requirements which a water system must follow.

#### **Test Result Updates:**

Public Water Systems A and B are monitored monthly for bacteriological contaminants. None of the samples tested positive for Total Coliform or Fecal Coliform. The tables provided list all the drinking water contaminants that were detected in the domestic water supply in 2017. No chemical contaminants exceeded EPA health-based criteria (MCLs).



How can I get Involved?

Please feel free to contact the number provided below for more information or for a translated copy of the report if you need it in another language.

For more information please contact:

John Flores,  
Domestic Water Manager  
[johnf@sanpasqualtribe.org](mailto:johnf@sanpasqualtribe.org)  
(760) 651-5141  
(760) 751-3485  
P. O. Box 365  
Valley Center,  
California 92082



# 2019 Water Quality Data - Valley Center Municipal Water District

Our water quality information for 2019 is listed in the tables on this page. Contained in the table are the test results for clarity and microbiological safety. Also included are results for 10 inorganic and secondary standards (aesthetic). Finally, the table includes results for 11 "other parameters" for which there are no current state or federal standards.

## What do all the abbreviations mean?

A number of abbreviations are contained on the Water Quality tables which are important to your understanding of the data, and those are:

**Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

**Maximum Residual Disinfection Level or MRDL.**

**Maximum Residual Disinfection Level Goal or MRDLG.**

**Public Health Goal or PHG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

**Primary Drinking Water Standard or PDWS:** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWS do not affect the health at the MCL levels.

**Regulatory Action Level (AL):** The concentration of contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

## 2019 ABBREVIATIONS

A	=	Absence
AI	=	Aggressive Index
AL	=	Action Level: the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow
CFU/mL	=	Colony-forming units per milliliter
DBP	=	Disinfection Byproducts
DLR	=	Detection Limits for purposes of Reporting
HPC	=	Heterotrophic Plate Count
LRAA	=	Locational Running Annual Average
MCL	=	Maximum Contaminant Level
MCLG	=	Maximum Contaminant Level Goal
MRDL	=	Maximum Residual Disinfectant Level
MRDLG	=	Maximum Residual Disinfectant Level Goal
MRL	=	Method Reporting Limit
N	=	Nitrogen
NA	=	Not Applicable
ND	=	Non Detectable
NL	=	Notification Level
NTU	=	Nephelometric Turbidity Units is a measure of the suspended material in water
P	=	Presence
pCi/L	=	Pico Curies per liter (a measure of radiation)
PHG	=	Public Health Goal
ppb	=	Parts per Billion
ppm	=	Parts per Million
ppt	=	Parts per Trillion
SI	=	Saturation Index
TOC	=	Total Organic Carbon
TON	=	Threshold Odor Number
TT	=	Treatment Technique: a required process intended to reduce the level of a contaminant in drinking water
µS/cm	=	Micromhos per centimeter

**Important!**

## 2019 Water Quality Report

If appropriate, please post this report so that others may review its contents. Additional copies may be obtained by contacting the District at (760) 735-4500.

PARAMETER (a)	Units	MCL [MRDL]	PHG (MCLG) [MRDLG]	Skinner Treatment Plant Test Results		Twin Oaks Treatment Plant Test Results		Carlsbad Desalination Plant Test Results		Major Sources in Drinking Water
				Range	Average	Range	Average	Range	Average	
<b>PRIMARY STANDARDS – MANDATORY HEALTH RELATED STANDARDS</b>										
<b>CLARITY</b>										
Combined Filter Effluent Turbidity	NTU %	TT = 1 TT(b)	NA	Highest % <0.3	0.07 100%	0.01-0.02 % <0.1	0.015 100%	Highest % <0.1	0.06 100%	Soil runoff
<b>INORGANIC CHEMICALS</b>										
Arsenic	ppb	10	0.004	ND	ND	NA	3	ND	ND	Natural deposits erosion, glass and electronics production wastes.
Nitrate (as N) (i)	ppm	10	10	ND	ND	0.2-0.4	0.3	ND	ND	Runoff and leaching from fertilizer use; sewage; natural deposit erosion
Fluoride Treatment-related (l)	ppm	2.0	1	0.3-0.8	0.7	0.5-0.7	0.7	0.6-0.803	0.703	Water additive for dental health
<b>RADIOLOGICAL</b>										
Uranium	pCi/L	20	0.43	ND-3	ND	NA	1.1	ND	ND	Erosion of natural deposits
<b>DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS</b>										
VCMWD Total Trihalomethanes (e)	ppb	80	NA	VCMWD Distribution System		Highest LRAA				By-product of drinking water chlorination
				Range	Average	20				
				13.8-29.0						
VCMWD Haloacetic Acid (d)	ppb	60	NA	VCMWD Distribution System		Highest LRAA				By-product of drinking water chlorination
				Range	Average	8				
				0.0-9.8						
VCMWD Total Chlorine Residual (Chloramines)	ppm	[4.0]	[4.0]	VCMWD Distribution System		Average				Drinking water disinfectant added for treatment
				Range	Average	1.8				
				1.3-2.0						
<b>CONTAMINANTS MONITORED BUT NOT DETECTED</b>										
VCMWD Total Coliform Bacteria (c) (m)	%	5.0	0	VCMWD Distribution System		Average				Naturally present in the environment
				Range	Average	ND				
				ND						
VCMWD Fecal Coliform Bacteria and E. Coli (c) (m)	CFU /mL	0	0	VCMWD Distribution System		Average				Human and animal fecal waste
				Range	Average	ND				
				ND						
<b>INORGANIC CHEMICALS</b>										
VCMWD Copper (f) Triennial 2019	ppm	AL = 1.3	0.3	VCMWD Distribution System		Average				Internal corrosion of household plumbing; natural deposit erosion
				Range	Average	0.318				
				90 <sup>th</sup> Percentile						
VCMWD Lead (f) Triennial 2019	ppb	AL = 15	0.2	VCMWD Distribution System		Average				Internal corrosion of household plumbing; natural deposit erosion
				Range	Average	ND				
				90 <sup>th</sup> Percentile						
<b>SECONDARY STANDARDS – AESTHETIC STANDARDS</b>										
Chloride	ppm	500	NA	Range 68-78	Average 73	Range NA	Average 75	Range 65.7-94.0	Average 79.1	Runoff/leaching from natural deposits; seawater influence
Specific Conductance	µS/cm	1600	NA	576-644	610	NA	600	345.1-495.9	408.3	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	90-108	99	NA	89	10.0-19.3	12.2	Runoff/leaching from natural deposits; industrial waste
Total Dissolved Solids(TDS)	ppm	1000	NA	330-379	354	NA	340	147-282	212	Runoff/leaching from natural deposits; seawater influence
<b>OTHER PARAMETERS</b>										
Alkalinity (as CaCO <sub>3</sub> )	ppm	NA	NA	84-87	86	NA	86	37-75	62	
Boron	ppb [ppm]	NL=1000	NA	NA	120	NA	120	[0.460 - 0.733]	[0.596]	Runoff/leaching from natural deposits; industrial waste
Calcium	ppm	NA	NA	33-39	36	NA	34	15.60-24.88	19.29	
Corrosivity (k) (as Aggressive Index)	AI	NA	NA	12.0	12.0	NA	12	11.55-12.90	12.02	Elemental balance in water; affected by temperature, other factors
Corrosivity (g) (as Saturation Index)	SI	NA	NA	0.20-0.28	0.24	NA	0.11	-0.05-0.51	0.27	Elemental balance in water; affected by temperature, other factors
Hardness (CaCO <sub>3</sub> )	ppm	NA	NA	139-164	152	NA	140	39.0-62.2	48.2	Runoff/leaching from natural deposits; sum of polyvalent cations, generally magnesium & calcium present in water
Magnesium	ppm	NA	NA	14-16	15	NA	14	0.605-1.250	0.833	Runoff/leaching from natural deposits
Ph	Units	NA	NA	8.1-8.2	8.1	7.6-8.5	8.2	6.00-8.68	8.48	
Potassium	ppm	NA	NA	3.3-3.6	3.4	NA	3.2	1.86-3.57	2.43	Salt present in the water, naturally occurring
Sodium	ppm	NA	NA	62-69	66	NA	64	47.8-77.8	61.8	Various natural and man-made sources
Total Organic Carbon (TOC)	ppm	TT	NA	2.0-2.7	2.4	1.9-2.5	2.2	NA	NA	Various natural and man-made sources
VCMWD Color	Units	15	NA	VCMWD Distribution System		Average				Naturally occurring organic materials
				Range	Average	0.135				
				<1-5						
VCMWD Odor Threshold (h)	TON	3	NA	VCMWD Distribution System		Average				Naturally occurring organic materials
				Range	Average	<1				
				0-<1						
VCMWD Turbidity (b)	NTU	5	NA	VCMWD Distribution System		Average				Soil runoff
				Range	Average	0.09				
				<0.10-0.50						
<b>UCMR 3(j) (Unregulated Contaminant Monitoring Rule)</b>										
PARAMETER	Units	MCL	[DLR] MRL	Test Results		Major Sources in Drinking Water				
				Range	Average					
Chlorate	ppb	NL=800	[20]	34-80	52.1	By product of water chlorination				
Chromium	ppb	50	[10]	0.38-0.40	0.39	Industrial waste discharges, natural causes				
Hexavalent Chromium	ppb	10	[1]	0.040-0.071	0.054	Industrial waste discharges, natural causes				
Molybdenum	ppb	NA	1	2.9-4.7	4.0	Mineral salt oxidation				
Strontium	ppb	NA	0.3	600-1100	900	Decay of natural deposits				
Vanadium	ppb	NL=50	[3]	0.20-0.21	0.206	Mineral and fossil fuel deposits				

## 2019 FOOTNOTES

- (a) Data shown are annual averages and ranges.
- (b) As Primary Standards, the turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU for more than one hour. Turbidity is a measure of the cloudiness of the water and is an indicator of treatment performance.
- (c) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform positive. When collecting <40 samples, if two or more are total coliform positive, the MCL is violated. The MCL was not violated. E. coli MCLs: The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E. coli, constitutes an acute violation. Standards and results are based on distribution system monthly sampling averages. Compliance is based on distribution system sampling from all pressure zones. 416 samples were analyzed in 2019. The MCL was not violated.
- (d) Calculated from the average of quarterly samples. Compliance is based on a running annual average of 16 distribution system samples. VCMWD was in compliance with the Stage 2 Disinfection By-Products (D/DBP) Rule.
- (e) Calculated from the average quarterly samples. Compliance is based on a running annual average of 16 distribution system samples. VCMWD was in compliance with the Stage 2. Disinfection By-Products (D/DBP) Rule.
- (f) Lead and copper are regulated in a Treatment Technique under the Lead and Copper Rule. The lead and copper results for 2019 are from 30 water samples collected from the consumers' tap throughout the VCMWD distribution system. The federal action level, which triggers water systems into taking treatment steps if exceeded in more than 10% of the tap water samples, is 1.3 ppm for copper and 15 ppb for lead. There were zero samples that exceeded the action level.
- (g) Positive SI index = non-corrosive; tendency to precipitate and/or deposit scale on pipes  
Negative SI index = corrosive; tendency to dissolve calcium carbonate.
- (h) Results are from VCMWD's laboratory's flavor-profile analysis that detects odor occurrences more accurately.
- (i) State MCL is 45 ppm as nitrate, which equals 10 ppm as N.
- (j) In 2014, the USEPA required VCMWD to test for a specific list of compounds.

VCMWD is required to report the results on this CCR in order to comply with State of California reporting requirements.

- (k) AI <10.0 = highly aggressive and very corrosive water  
AI >12.0 = non-aggressive water  
AI (10.0 - 11.9) = moderately non-aggressive water
- (l) Metropolitan Water District was in compliance with all provisions of the State's Fluoridation System Requirements. For additional information, visit the Health Department's fluoridation website: [https://www.waterboards.ca.gov/drinking\\_water/certific/drinkingwater/Fluoridation.html](https://www.waterboards.ca.gov/drinking_water/certific/drinkingwater/Fluoridation.html)
- (m) VCMWD had zero total coliform present samples in 2019. As a result, the MCL was not violated. Samples are collected every Monday, and the number collected per month is either 32 or 40.
- (n) Constituent categories identified as VCMWD indicate that water quality testing was conducted by VCMWD. Other constituent sampling was conducted by the District's wholesale suppliers, the MWD and the SDCA.